STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

April 14, 2006

Raymond Thibodeau
Sinclair Sanitary District
P.O. Box 71
Sinclair, Maine 04479

RE: Permit Compliance System Tracking Number (PCS) # MEU507814
Maine Waste Discharge License (WDL) Application # W007814-5L-C-R
Final License

Dear Mr. Thibodeau:

Enclosed please find a copy of your **final** Maine WDL which was approved by the Department of Environmental Protection. Please read the license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding this matter, please feel free to call me at 287-7658.

Sincerely,

for David Silver
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.
cc: Sean Bernard, DEP/NMRO;
[redacted]

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17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

SINCLAIR SANITARY DISTRICT	)	PROTECTION AND IMPROVEMENT
T 17, R 4, AROOSTOOK COUNTY, MAINE	)	OF WATERS
PUBLICLY OWNED TREATMENT WORKS	)	
SURFACE WASTE WATER DISPOSAL	)	
MEU507814	)	WASTE DISCHARGE LICENSE
#W007814-5L-C-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department) has considered the application of the SINCLAIR SANITARY DISTRICT (SINCLAIR) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied to the Department for renewal of Waste Discharge License (WDL) #W007814-5L-B-R, that was issued on January 11, 2001 and expired on January 11, 2006. The system was designed to treat an average sanitary waste water influent flow of 43,500 gallons per day and stores the influent flow in on-site storage lagoons when spray irrigation discharge conditions are not suitable. Treatment is achieved by solids separation in two facultative lagoons (each with a 2.16 million gallon [MG] capacity) and one storage lagoon (with a 14.3 MG capacity) with seasonal disposal (now authorized between April 15th – November 15th of each year) via four spray irrigation fields that have a combined area of 30 acres.

The average detention time of wastewater in the lagoons is approximately 180 days (as the storage lagoon's water elevation is diminished during the fall in preparation for the winter storage season). The facility has been authorized in the past to spray irrigate up to 40,725 gallons per acre per week (equivalent to 1.5" per acre per week). This licensing action is modifying the spray irrigation application rate to 54,300 gallons per acre per week (equivalent to 2.0" per acre per week). By using the entire 30 acre spray irrigation area, the facility may treat and discharge up to 1.6 million gallons [30 acres X 54,300 gallons per acre (gpa)] per week or up to 50,499,000 gallons per year during an entire 31 week spray irrigation season (however it is noted that the historic spray season for northern Maine is shorter because the region generally has colder temperatures and more snow cover than the rest of the sites that use spray irrigation, so that the effective spray season typically occurs for 25 weeks long and would allow an effective discharge of approximately 40 million gallons per year [30 acres X 54,300 gpa X 25 weeks]). Therefore, the total amount of wastewater that could be applied to the site under typical conditions is 40 million gallons. With annual waste water generation of about 9.3 million gallons, the spray irrigation system is sufficiently sized and provides ample flexibility to treat and dispose of the amount of wastewater generated.

The facility has been assigned number MEU507814 in the Department's permit compliance system (PCS). The PCS number has been changed to a MEU50 number prefix to reflect the publicly owned spray irrigation facilities category; the former number #ME0102326 will not be used for future compliance system report tracking.

PERMIT SUMMARY

This license is similar to the January 11, 2001 WDL in that it is:

1. Continuing lagoon effluent monitoring for biochemical oxygen demand (BOD), total suspended solids (TSS), specific conductance, nitrate-nitrogen, and pH on a once per month basis (during the months of April or May, June, September, and October or November each year, and lagoon freeboard elevations on a weekly basis (during the spray irrigation season [April 15th through and including November 15th, of each year]).
2. Maintaining the restriction of requiring spray irrigation to occur only when there is at least ten (10) inches of separation between the ground surface and the ground water table during the time of spray events.
3. Maintaining the requirement to monitor the spray irrigation area and distribution system within one hour of spray irrigation startup to detect for leaks, runoff, or other unusual conditions.
4. Maintaining the requirement for influent flow and lagoon freeboard reporting.

This license is different from the January 11, 2001 WDL in that it is:

1. Eliminating lagoon effluent monitoring for chloride, and total kjeldahl nitrogen parameters.
2. Modifying the monitoring of lagoon freeboard elevations outside of the spray irrigation season for the months of December, January, February, and March of each year to a monthly basis.
3. Expanding the spray irrigation season from April 15th through November 15th of each year.
4. Requiring the submission of a *Spray Irrigation Performance Report* as an exhibit to the application for the next license renewal;
5. Requiring the licensee to maintain an up-to-date *Operations & Maintenance (O&M) Plan*;
6. Modifying the restriction against spray irrigation if there had been rainfall or precipitation, (exceeding 0.5 inches), within the previous eight hour period preceding the planned spray event, to a restriction against spraying if there has been more than one (1.0) inch of precipitation within the preceding 24 hour period.
7. Incorporating lagoon effluent monitoring for temperature on a monthly basis (during the spray irrigation season) and for metals testing on a once per five (5) year frequency.
8. Increasing the spray irrigation application rate from 1.5 inches per week to 2.0 inches per week.
9. Modifying the requirement for ground water well monitoring from a four sample per year frequency, to a twice per year basis (in May and October).
10. Eliminating the ground water well monitoring requirement for chloride and chemical oxygen demand (COD), but adding specific conductivity, total suspended solids, and temperature on a twice per year basis and for metals testing on a once per five (5) year frequency

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated February 28, 2006, and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 M.R.S.A., Section 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of the SINCLAIR SANITARY DISTRICT, to operate a surface waste water disposal system that discharges up to 54,300 gallons per acre per week of treated sanitary waste water to groundwater resources, Class GW-A, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations including:

1. Standard Conditions of Approval for POTW Waste Discharge Licenses dated July 16, 1996, copy attached.

2. The attached Special Conditions, including effluent limitations and monitoring requirements.

3. This license expires five (5) years from the date of signature, below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 18TH DAY OF April, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for
David P. Littell, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application; December 5, 2005

Date of application acceptance: December 6, 2005

FILED
APR 19 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This Order prepared by David Silver, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date of the license and lasting through the license expiration date, the licensee is authorized to operate a surface waste water treatment and disposal system. The **LAGOON EFFLUENT[1] (OUTFALL #001)** shall be limited and monitored as specified below.

	Weekly Maximum	Daily Maximum	Minimum Measurement Frequency	Sample Type
Lagoon Influent Flow *[50050]*	Report, gal/week *[8G]*	Report, gal/day *[07]*	1/Day *[01/01]*	Meter *[MT]*
Lagoon Level, Freeboard *(in Storage Lagoon)* *[82564]*	---	Report, Feet[1] *[27]*	1/Week *[01/07]*	Measure *[MS]*
Biochemical Oxygen Demand *[00310]*	---	100 mg/L *[19]*	1/Month[2] *[01/30]*	Grab *[GR]*
Total Suspended Solids *[00530]*	---	100 mg/L *[19]*	1/Month[2] *[01/30]*	Grab *[GR]*
Nitrate-Nitrogen *[00620]*	---	Report mg/L *[19]*	1/Month[2] *[01/30]*	Grab *[GR]*
Specific Conductance *[00095]*	---	Report (umhos/cm) *[11]*	1/Month[2] *[01/30]*	Grab *[GR]*
Temperature (°F) *[00011]*	---	Report (°F) *[15]*	1/Month[2] *[01/30]*	Grab *[GR]*
pH (Standard Units) *[00400]*	---	Report S.U. *[12]*	1/Month[2] *[01/30]*	Grab *[GR]*
Metals (Total): Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *[01002, 01027, 01034, 01042, 01051, 71900, 01067, 01092]*		Report ug/L *[28]*	1/5 Years[3] *[01/5Y]*	Grab *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports. **Note: For reporting on DMR's report the minimum freeboard recorded for each lagoon. When lagoon freeboard levels are less than three (3) feet, the frequency of measurement shall be once (1) per day. In the event that freeboard levels in any lagoon (including FL#1 and FL#2) are two feet or less, then the Licensee shall notify the Compliance Inspector of the elevations and consult for freeboard management and further recommendations.** All sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

Footnotes: Refer to page 6 for applicable footnotes

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

2. The **SPRAY IRRIGATION AREAS** shall be limited and monitored as specified below for land application between April 15th and November 15th of each year:

SA1 – Spray Area #1 (Northwesterly Spray Irrigation Area – 7.5 acres)
SA2 – Spray Area #2 (Southwesterly Spray Irrigation Area – 7.5 acres)
SA3 – Spray Area #3 (South-Central Spray Irrigation Area – 7.5 acres)
SA4 – Spray Area #4 (Easterly Spray Irrigation Area – 7.5 acres)

	Monthly Total	Weekly Maximum	Minimum Measurement Frequency	Sample Type
Application Rate [4] *[51125]*	---	54,300 gallons per acre[5] (2.0 inches/acre) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Flow – Total Gallons *[82220]*	Report (Gallons) *[80]*	---	1/Month *[01/30]*	Calculate *[CA]*

Footnotes:

(1) Lagoon elevations shall be measured and reported weekly for each lagoon (FL#1, FL#2, and SL) (however, during the months of December thru March of each year elevations shall be on a monthly basis). Storage lagoon effluent shall be sampled at a point after the pump in the distribution line prior to being pumped to the spray field(s) and shall be representative of what is actually being applied to the fields. Any change in sampling location must be approved by the Department in writing.

(2) Lagoon effluent sampling shall occur monthly, four (4) times per year, during the months of (a) April or May, (b) June, (c) September, and (d) October or November of each year. In the event that no wastewater is disposed of via the spray irrigation system during the month, the licensee is not required to sample for effluent monitoring.

(3) Metals testing shall be performed in the twelve-month period prior to the expiration date of the license.

(4) Weekly is defined as Sunday through Saturday. A field's daily or weekly application rate is the total gallons sprayed over the applicable period of time divided by the size of the wetted area of the field(s) utilized. Note: 27,152 gallons is equivalent to one acre-inch. The licensee shall measure the flow of waste water to the irrigation area by the use of a flow measuring device that is checked for calibration at least once per calendar year.

(5) For Discharge Monitoring Report (DMR) reporting purposes, the licensee shall report the highest weekly application rate for the month in the applicable box on the form. Compliance with weekly reporting requirements must be reported for the month in which the calendar week ends.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS

3. **GROUND WATER MONITORING WELLS[6]; MW3** (located easterly of and downgradient from the lagoons), **MW4** (located easterly of and downgradient from Spray Area #4), **MW5** (located southerly of and downgradient from Spray Areas 2/3),

	Daily Maximum as specified	Minimum Measurement Frequency	Sample Type
Depth to Water Level Below Landsurface[7] *[72019]*	Report (feet) *[27]*	2/Year *[02/YR]*	Measure *[MS]*
Nitrate-Nitrogen[7] *[00620]*	10 mg/L *[19]*	2/Year *[02/YR]*	Grab *[GR]*
Specific Conductance[7] *[00095]*	Report (umhos/cm) *[11]*	2/Year *[02/YR]*	Grab *[GR]*
Temperature (°F) [7] *[00011]*	Report (°F) *[15]*	2/Year *[02/YR]*	Grab *[GR]*
pH (Standard Units) [7] *[00400]*	Report (S.U.) *[12]*	2/Year *[02/YR]*	Grab *[GR]*
Total Suspended Solids[7] *[00530]*	Report (mg/L) *[19]*	2/Year *[02/YR]*	Grab *[GR]*
Metals[8] (Total): Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *[01002, 01027, 01034, 01042, 01051, 71900, 01067, 01092]*	Report ug/L *[28]*	1/5 Years *[01/5Y]*	Grab *[GR]*

Note that wells MW1 (located westerly of lagoon FL#1), **MW2** (located northerly of the lagoons), **AND MW6** (located westerly of the Spray Area #1) had been previously sampled, however, the requirement to sample MW1, MW2, and MW6 is held in abeyance subject to review by the Department and the determination that continued testing is required for MW1, MW2, and MW6.

Footnotes: (6) All sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

(7) Monitoring wells shall be sampled during the months of May and October of each year. Depth to water level shall be measured to the nearest one-hundredth ($1/100^{th}$) of a foot as referenced from the surface of the ground at the base of the monitoring well. Specific conductance (calibrated to 25.0° C), temperature, and pH are considered to be "field" parameters, and are to be measured in the field via instrumentation. The licensee is required to test for these parameters whether waste water was disposed of via the spray-irrigation system or not. Specific Conductance values greater than 275 umhos/cm, consistent trends approaching 275 umhos/cm or sudden spikes from previous levels shall be reported immediately to the Department, and may necessitate the need for additional ground-water testing requirements.

(8) Metals testing shall be performed in the twelve-month period prior to the expiration date of the license.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain materials in concentrations or combinations which would impair the uses designated by the classification of the groundwater.
2. The effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of a **Grade II** certificate [or a Maine Professional Engineer (P.E.)] pursuant to Title 32 M.R.S.A., Section 4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the licensee may engage the services of the contract operator.

D. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department **and shall be postmarked by the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMR's are received by the Department by the fifteenth (15th) day of the month following the completed reporting period.** A signed copy of the DMR and all other reports required herein shall be submitted, unless otherwise specified, to the Department's facility inspector at:

Maine Department of Environmental Protection
Division of Water Quality Management
1235 Central Drive
Presque Isle, Maine 04769

E. AUTHORIZED DISCHARGES

The Sinclair Sanitary District is authorized to discharge treated sanitary waste water only in accordance with the terms and conditions of this WDL and only to the spray irrigation disposal fields identified in the Waste Discharge License application. Discharge of waste water from any other location or from sources other than those indicated on said application requires written authorization from the Department. The collection, treatment or discharge of waste water which has constituents unlike that or significantly higher in strength than that of domestic waste water is prohibited without written authorization from the Department.

SPECIAL CONDITIONS

F. NOTIFICATION REQUIREMENT

In accordance with Standard Condition #6, the licensee shall notify the Department of:

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and
2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:
   (a) the quality and quantity of waste water introduced to the waste water collection and treatment system; and
   (b) any anticipated impact caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

G. GENERAL OPERATIONAL CONSTRAINTS

1. All waste waters shall receive biological treatment through a properly designed, operated and maintained lagoon system prior to disposal via spray irrigation.
2. The spray irrigation facilities shall be effectively maintained and operated at all times so that there is no discharge to surface waters, nor any contamination of ground water which will render it unsatisfactory for usage as a public drinking water supply.
3. The surface waste water disposal system shall not cause the lowering of the quality of the ground water, as measured in the ground water monitoring wells specified by this license, below the State Primary and Secondary Drinking Water Standards specified in the Maine State Drinking Water Regulations pursuant to Maine Law 22 M.R.S.A. § 2601.

   In the event the ground water monitoring results indicate adverse effects, the licensee may be required to take immediate remedial action(s), which may include but not limited to, adjustment of the irrigation schedule or application rates, a reduction of the pollutant loading, or ceasing operation of the system until the ground water attains applicable standards.
4. The Department shall be notified as soon as the licensee becomes aware of any threat to public health, unlicensed discharge of waste water, sanitary system overflows (SSO's) or any malfunction that threatens the proper operation of the system. Notification shall be made in accordance with the attached Standard Condition #4 of this license. A *sanitary sewer overflow* (SSO) is the release of raw sewage from a sanitary collection system prior to reaching the treatment plant or facility (spills out of manholes, into basements, onto municipal or private property, etc, and into the waters of the State are all considered to be SSO's.
5. The licensee shall maintain a file on the location of all system components and relevant features. Each component shall be mapped and field located sufficiently to allow adequate inspections and monitoring by both the licensee and the Department.

SPECIAL CONDITIONS

G. GENERAL OPERATIONAL CONSTRAINTS (CONT'D)

6. System components including collection pipes, tanks, manholes, pumps, pumping stations, spray disposal fields, and monitoring wells shall be identified and referenced by a unique system identifier in all logs and reports.

H. SPRAY IRRIGATION OPERATIONAL CONSTRAINTS

1. Suitable vegetative cover shall be maintained. Waste water may not be applied to areas without sufficient vegetation or ground cover as to prevent erosion or surface water runoff outside the designated boundaries of the spray fields. The licensee shall have an updated forestry management plan that includes provisions for maintaining the spray irrigation area in optimum condition for the uptake of nutrients and moisture holding capacity.
2. At least 10 inches of separation from the ground surface to the ground water table shall be present prior to spray irrigation.
3. No waste water shall be applied to the site following a rainfall accumulation exceeding 1.0 inch within the previous 24-hour period. A rain gauge shall be located on site to monitor daily precipitation. The licensee shall also manage application rates by taking into consideration the forecast for rain events in the 48-hour period in the future.
4. No waste water shall be applied where there is snow present on the surface of the ground or when there is any evidence of frost or frozen ground within the upper 10 inches of the soil profile.
5. No traffic or equipment shall be allowed in the spray-irrigation field except where installation occurs or where normal operations and maintenance are performed.

I. SPRAY IRRIGATION OPERATIONAL PROCEDURES, LOGS AND REPORTS

1. Prior to the commencement of spray irrigation for the season, the licensee shall notify the Department's compliance inspector that they have verified that site conditions are appropriate (frozen ground, soil moisture, etc.) for spray irrigation.
2. The licensee shall install the equivalent of one ground water level inspection well per spray field to verify that 10 inches of separation from the ground surface to the observed ground water level is present prior to spraying. Depths to ground water shall be recorded in accordance with the format of *"Depth to Groundwater"* provided as Attachment "C" of this license.
3. The licensee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities. **Within one hour after start-up of the spray-irrigation system**, the licensee shall walk the spray-irrigation site or have other means to check the system for leakage in the piping system and determine if individual sprayheads and pump(s) are functioning as designed, and verify that application rates are appropriate for the existing site conditions. Should significant malfunctions or leaks be detected, the licensee must shut down the malfunctioning/leaking sections of the spray system and make necessary repairs before resuming operation. The licensee shall cease irrigation if runoff is observed outside the designated boundaries of the spray field(s).

SPECIAL CONDITIONS

I. SPRAY IRRIGATION OPERATIONAL PROCEDURES, LOGS AND REPORTS (CONT'D)

4. **The licensee shall maintain a daily log** of all spray irrigation operations which records, the date, weather and soil conditions, rainfall, areas irrigated, volume sprayed (gallons), application rates (daily and weekly), and other relevant observations/comments from daily inspections. The log shall be in accordance with the format of the *"Monthly Operations Log"* provided as Attachment "A" of this license.

   Weekly application rates shall be reported in accordance with the format of the *"Spray Application Report by Week"* provided as Attachment "B" of this license. The *Monthly Operations Log, Spray Application Report by Week, and Depth to Groundwater* for each month shall be submitted to the Department as an attachment to the monthly Discharge Monitoring Reports (DMR's). Copies will also be maintained on site for Department review and for license operation maintenance purposes.

J. LAGOON MAINTENANCE

1. The banks of the lagoons shall be inspected periodically during the operating season and properly maintained at all times. There shall be no overflow through or over the banks. Any signs of leaks, destructive animal activity or soil erosion of the banks shall be repaired immediately.
2. The banks of the lagoons shall be maintained to keep them free of woody vegetation and other vegetation that may be detrimental to the integrity of the bank and/or lagoon liner.
3. The waters within the lagoons shall be kept free of all vegetation (i.e. grasses, reeds, cattails, etc) that hinders the operation of the lagoon.
4. The licensee shall maintain the lagoons freeboard at design levels or at least two (2) feet whichever is greater. The storage lagoons shall be operated in such a way as to balance the disposal of waste water, including the necessary storage capacity for precipitation, to ensure that design freeboard levels are maintained.
5. The treatment lagoons and storage lagoon shall be dredged as necessary to maintain the proper operating depths in the lagoons that will provide best practicable treatment of the waste water. All material removed from the lagoon(s) shall be properly disposed of in accordance with all applicable State and Federal rules and regulations.

K. DISPOSAL OF SEPTAGE IN WASTE WATER TREATMENT FACILITY

The licensee is prohibited from accepting septage for disposal into any part or parts of the wastewater disposal system. Septage shall mean any waste, refuse, effluent, sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added.

SPECIAL CONDITIONS

L. INSPECTIONS AND MAINTENANCE

The licensee shall periodically inspect all system components to ensure the facility is being operated and maintained in accordance with the design of the system. Maintenance logs shall be maintained for each major system component including pumps, pump stations, septic tanks, lagoons, spray apparatus, and pipes. At a minimum, the logs shall include the unique identifier [see Special Condition G(6)], the date of maintenance, type of maintenance performed, names or person performing the maintenance, and other relevant system observations.

M. WET WEATHER FLOW MANAGEMENT PLAN

On or before June 30, 2006, the licensee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan ***[PCS Code 06799]*** that conforms to Department guidelines for such plans. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures, and provide a written operating and maintenance procedures during the events.

The treatment facility staff shall develop and maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall.

The licensee shall review the plan at least annually and record any necessary changes to keep the plan up-to-date. Any changes shall be submitted to the Department for review and approval.

N. GROUND WATER MONITORING WELLS AND WATER QUALITY MONITORING PLAN DETAILS

1. As an exhibit to be attached to the next re-licensing application anticipated to be submitted to the Department **on or about April 15, 2011** ***[PCS Code 24599]***, the licensee shall submit to the Department for review and approval, a ground water quality monitoring plan as outlined in Department guidance entitled "*Water Quality Monitoring Plan Details*", enclosed as Attachment "1" of the Fact Sheet of this license. Because Sinclair is an existing facility, many of the sections of the Attachment "1" do not pertain, however, particular attention should be dedicated to section 9 of this Attachment. ***Note that annual reporting (as referenced in section 9 of the Plan Details) are suspended, except for the fifth and final year of this license. If contamination is detected in the future, this condition may be reinstated.***

2. All monitoring wells shall be equipped with a cap and lock to limit access and shall be maintained in a secured state at all times. The integrity of the monitoring wells shall also be verified annually.

3. The Department reserves the right to require increasing the depth and or relocating any of the ground water monitoring wells if the well is perennially dry or is determined not to be representative of ground water conditions.

SPECIAL CONDITIONS

O. SPRAY IRRIGATION PERFORMANCE REPORT

As an exhibit to the next application for license renewal, the licensee shall submit to the Department a report of the treatment system's performance covering the previous five calendar years ***[PCS Code 90199]***. The report shall be dated and signed by the operator in responsible charge of the system.

The report shall include, but is not necessarily limited to, an updated source description, an updated schematic and narrative of the treatment system and distribution system, a summary of the past performance demonstrating compliance with all terms and conditions of the effective license, a description of any proposed changes in the overall system or operation of the system, and if applicable, proposed changes in the effective license.

P. OPERATIONS AND MAINTENANCE (O & M) PLAN AND SITE PLAN(S)

This facility shall have a current written comprehensive Operation & Maintenance (O & M) Plan. The plan shall provide a systematic approach by which the licensee shall at all times, properly operate and maintain all facilities and the systems of treatment and control (and related appurtenances) which are installed or used by the licensee to achieve compliance with the conditions of this license. Of particular importance is the management of the spray application sites such that the four spray sites are given ample periods of rest to prevent over application events.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the licensee shall evaluate and modify the O& M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O & M Plan shall be kept on-site at all times and made available to the Department personnel upon request.

Within 90 days of completion of new and substantial upgrades of the wastewater treatment facility, the licensee shall submit the updated O & M Plan to their Department inspector for review and comment.

Q. PUBLIC ACCESS TO LAND APPLICATION SITES AND SIGNAGE

Access to the land application sites shall be limited during the season of active site use. The licensee shall install signs measuring at least 8 ½" x 11", in areas of concern around the perimeter of the lagoon and spray irrigation sites that inform the general public that the area is being used to dispose of sanitary waste waters. The signs must be constructed of materials that are weather resistant. The licensee must annually inspect and make any necessary repairs to the signage to comply with this condition.

SPECIAL CONDITIONS

R. SCHEDULE OF COMPLIANCE

On or before May 15, 2006 ***[PCS Code 53999],*** the licensee shall submit plans, for review and approval, to the Department for the installation of an effluent flow meter to accurately measure the quantity of waste water that is applied to the spray irrigation areas. The measurement methodology shall record daily flows to the spray areas and shall provide a method to monitor weekly flow to each spray area as well as the total volume of waste water discharged from the lagoons.

On or before June 15, 2006 ***[PCS Code 53999],*** the licensee shall install and make operational the effluent flow meter, which has been reviewed and approved by the Department, that accurately measures the quantity of waste water that is applied to the spray irrigation areas. From that date forward, all spray irrigation application volume monitoring shall be measured by the flow meter.

On or before June 15, 2011 ***[PCS Code 53999],*** the licensee shall conduct a lagoon profile assessment for each lagoon (FL#1, FL#2, and SL) to determine the quantity and levels of solids accumulation and sludge blanket that is present. The licensee shall report that data to the Department as part of the performance report (see items J.5 and O above) to be included as an exhibit for the next license renewal application.

S. REOPENING OF LICENSE

Upon evaluation of any required test results, results of inspections and/or reporting required by the Special Conditions of this licensing action, additional site specific or any other pertinent information or test results obtained during the term of this license, the Department may, at anytime and with notice to the licensee, modify this license to require additional monitoring, inspections and/or reporting based on the new information.

T. SEVERABILITY

In the event that any provision, or part thereof, of this license is declared to be unlawful by a reviewing court, the remainder of the license shall remain in full force and effect, and shall be construed and enforced in all respects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

Monthly Operations Log **Attachment A** **(Month/Year)** _____)

WDL #W-007814-5L-C-R; Fields # _____ Weekly Application Rate: _____ gallons/acre (_____ inches)

	A	B	C	D	E	F	G	H	I	J	K
Day	DATE	PRECIP Inches	TEMP	WEATHER	WIND-Direction Speed	Soil Moisture	Quanity-Total Gallons Pumped	Name of Field(s) Used	Acres Sprayed (Sum of Col H x Area of Each Field)	Gallons/Acre (inches) (Col G divided by I)	Total Inches
	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										
	14										
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										
	29										
	30										
	31										
Monthly Total =											

Spray Application Report by Week **Attachment B** **Facility Name**_____;

WDL # W-007814-5L-C-R; (Month _____, Year _____) Weekly Application Rate _____ gallons/acre _____ inches)

Field Name/#	Effective Spray Area (Acres)	Weekly Limit (Gallons/Acre)	Actual Spray Application Rates (Gallons per Acre)					Number of Exceptions to Weekly Limit	Monthly Average
			Week 1	Week 2	Week 3	Week 4	Week 5		

Note: 1 acre-inch is equivalent to 27,150 gallons of liquid
27,150 gallons per acre is equivalent to 1.0 inch

Total Number of Exceptions

A spray-field's weekly application rate if the total gallons sprayed (Sunday through Saturday) divided by the size of the spray-field in acres or the size in acres of that portion of the spray field utilized.

Signature of Responsible Official: _____, Date _____

Depth to Groundwater (Tenths of Feet) Attachment C (Month _____, Year _____)

Facility Name: Sinclair Sanitary District Waste Water Treatment Facility; W-007814-5L-C-R

Field Name/#	Monitoring Location	2. Depth to Groundwater (Measured From Ground Surface in Tenths of Feet)					Number of Exceptions	Monthly Average Depth
		Week 1	Week 2	Week 3	Week 4	Week 5		
					Total Number of Exceptions			

Note: Special Condition H of the License requires that a depth of 10 inches from the ground surface to the groundwater table must be present prior to spraying.

Signature of Responsible Offical: _____, Date _____

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **February 28, 2006**

PERMIT NUMBER: **MEU507814**

LICENSE NUMBER: **W007814-5L-C-R**

NAME AND ADDRESS OF APPLICANT:

SINCLAIR SANITARY DISTRICT
P. O. Box 71
Sinclair, Maine 04779

COUNTY: **Aroostook County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Route 162
Sinclair, Maine 04779

RECEIVING WATER/CLASSIFICATION: **Ground Water/Class GW-A**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Raymond Thibodeau**
Chief Operator
(207) 543-5000

1. APPLICATION SUMMARY

The applicant has applied to the Department for renewal of Waste Discharge License (WDL) #W007814-5L-B-R, that was issued on January 11, 2001 and expired on January 11, 2006. The system was designed to treat an average sanitary waste water influent flow of 43,500 gallons per day and stores the influent flow in on-site storage lagoons when spray irrigation discharge conditions are not suitable. Treatment is achieved by solids separation in two facultative lagoons (each with a 2.16 million gallon [MG] capacity) and one storage lagoon (with a 14.3 MG capacity) with seasonal disposal (now authorized between April 15th – November 15th of each year) via four spray irrigation fields that have a combined area of 30 acres.

1. APPLICATION SUMMARY (Cont'd)

The average detention time of wastewater in the lagoons is approximately 180 days (as the storage lagoon's water elevation is diminished during the fall in preparation for the winter storage season). The facility has been authorized in the past to spray irrigate up to 40,725 gallons per acre per week (equivalent to 1.5" per acre per week). This licensing action is modifying the spray irrigation application rate to 54,300 gallons per acre per week (equivalent to 2.0" per acre per week). By using the entire 30 acre spray irrigation area, the facility may treat and discharge up to 1.6 million gallons [30 acres X 54,300 gallons per acre (gpa)] per week or up to 50,499,000 gallons per year during an entire 31 week spray irrigation season (however it is noted that the historic spray season for northern Maine is shorter because the region generally has colder temperatures and more snow cover than the rest of the sites that use spray irrigation, so that the effective spray season typically occurs for 25 weeks long and would allow an effective discharge of approximately 40 million gallons per year [30 acres X 54,300 gpa X 25 weeks]). Therefore, the total amount of wastewater that could be applied to the site under typical conditions is 40 million gallons. With annual waste water generation of about 9.3 million gallons, the spray irrigation system is sufficiently sized and provides ample flexibility to treat and dispose of the amount of wastewater generated.

The facility has been assigned number MEU507814 in the Department's permit compliance system (PCS). The PCS number has been changed to a MEU50 number prefix to reflect the publicly owned spray irrigation facilities category; the former number #ME0102326 will not be used for future compliance system report tracking.

2. PERMIT SUMMARY

a. History: The most recent permitting/licensing actions include the following:

August 8, 1994 – The Department issued WDL #W007814-58-A-N for the Sinclair facility for a five (5) year term.

January 11, 2001 – The Department renewed the August 8, 1994 WDL with the issuance of Waste Discharge License number #W007814-5L-B-R with a term of five years.

December 5, 2005 – The Sinclair Sanitary District submitted a timely and complete application to the Department of Environmental Protection for the renewal of the 2001 WDL. The Department accepted the application for processing on December 6, 2005.

2. PERMIT SUMMARY (Cont'd)

b. Source Description: The surface waste water treatment facility was constructed and operational in 1994 at which time the discharge of a variety of untreated sanitary waste water discharges to streams and lakes in the vicinity was discontinued. Waste water treated at the treatment facility is generated from a number of commercial and residential users within the District's boundaries in the township of Sinclair (Township 17, Range 4). The District has approximately 8,000 feet of gravity sewers, 3 pump stations, approximately 8,500 feet of force mains, two facultative lagoons and one storage lagoon. A portable generator is available to power the pump stations for use in the event of power outages. The District's sanitary waste water collection system is separated from the storm water system and there are no combined sewer overflows (CSO's) associated with the collection system. The applicant has stated that there are no industrial contributors to the collection system. This license prohibits, and the previous WDL prohibited, the facility from accepting septage from local septage haulers.

c. Waste Water Treatment: Waste water is pumped from the collection system to the facultative lagoon #1 (FL#1) for primary settling and solid separation. From the first lagoon, wastewater is directed to a second facultative lagoon (FL#2) for polishing and then to a third storage lagoon (SL) that is used for storage during the winter or non-spray irrigation season. The first and second facultative lagoon each have a design capacity of 2.16 million gallons (MG) [or 4.32MG combined], whereas the storage lagoon has a design capacity of 14.3 MG [for a total lagoon capacity of 4.32 + 14.3 MG = 18.63MG]. Given an average daily inflow rate of 25,500 gpd the total quantity of waste water directed to the Sinclair Sanitary District for treatment and disposal is (25,500 gpd X 365 days per year) 9.3 MG per year. The biological treatment process consists of two facultative treatment lagoons and one storage lagoon. The treatment lagoons are constructed with 13 foot high berms with a 3 horizontal to 1 vertical slope. The lagoons were constructed over a 24-inch thick compacted till liner. The interior of the berms are treated with riprap to prevent erosion or slumping of the side slopes. The exterior of the berms are vegetated. This licensing action authorizes spray irrigation between April 15th and November 15th of each year. Waste water from the storage lagoon is conveyed to four (4) spray fields (each measuring 7.5 acres) totaling approximately 30.0 acres. Each spray field contains 40 spray nozzles which distributes water in a circular pattern measuring roughly 110 feet in diameter.

The system has been designed such that the operator has the flexibility to rotate the zones in a series pattern. The system also provides sufficient valving to isolate each of the spray fields, or isolate individual clusters of spray heads with each spray zone.

Each spray field is vegetated mixed woodland with a 8-25% slope with a south-easterly aspect. The weekly maximum waste water application rate shall not exceed the levels provided in Special Condition A(2) of this license.

3. CONDITIONS OF THE LICENSE

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, Maine law, 38 M.R.S.A., Section 420, and Department Regulation Chapter 530, *Surface Water Toxics Control Program* requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Water Act.

4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A § 470 indicates the groundwater at the point of discharge is classified as Class GW-A receiving waters. Maine law, 38 M.R.S.A., §465-C describes the standards for Class GW-A waters as the highest classification of groundwater and shall be of such quality that it can be used for public water supplies. These waters shall be free of radioactive matter or any matter that imparts color, turbidity, taste or odor which would impair the usage of these waters, other than occurring from natural phenomena.

5. TREATMENT

Slow rate land irrigation treatment is an environmentally sound and appropriate technology for best practicable treatment and disposal of sanitary wastewater. The soils and vegetation within the irrigation area will provide adequate filtration and absorption to preserve the integrity of the soil, and both the surface and groundwater quality in the area.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. Monitoring Parameters

Biochemical Oxygen Demand (BOD_5) - Monitoring for BOD yields an indication the condition of the waste water being applied, of excessive loading of organic material and the effectiveness of the spray-irrigation treatment process.

Nitrate-nitrogen - Nitrogen compounds are by-products of the biological breakdown of ammonia and are inherent in domestic like sanitary wastewater. Because nitrate-nitrogen is weakly absorbed by soil, it functions as a reliable indicator of contamination from waste-disposal sites. Elevated levels of nitrate-nitrogen in the drinking water supply are of human health concern. The limit of 10 mg/L is a National Primary Drinking Water standard.

Specific Conductance, Temperature and PH are considered to be "field" parameters meaning that they are measured directly in the field via instrumentation and does not require laboratory analysis. These parameters are considered as surveillance level monitoring parameters and are used as an early-warning indicators of potential groundwater contamination.

Total Suspended Solids (TSS) - TSS in the groundwater yields an indication of the integrity of the monitoring wells and of the treatment efficiency

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONT'D)

b. Design Flow: - The system was designed to treat an average sanitary waste water influent flow of 43,500 gallons per day. The historical daily average influent flow of the treatment plant has been 25,500 gallons per day during the past five years.

c. Lagoon Effluent: Monthly monitoring parameters include BOD_5, TSS, Nitrate-Nitrogen, specific conductivity, temperature, pH, and, (on a once per five year frequency) certain metals. Monitoring for these parameters yields an indication of the effectiveness of the lagoon treatment process and the condition of the waste water being applied. Limits of 100 mg/L, daily maximum for BOD and TSS are the Department's best practicable treatment (BPT) requirements. Monitoring is being required on a monthly when wastewater is disposed of via the spray irrigation system.

Testing for specific metals in the effluent from the storage lagoon is only required to be performed in the twelve-month period prior to the expiration date of the license.

d. Spray Irrigation Application Rates – Based on the history of the spray applications and information from the applicant, the spray fields are capable of treating and assimilating a weekly maximum application rates of 54,300 gallons (2.0 inches) per acre per week.

The weekly limits are established as a margin of safety against hydraulically overloading a spray field and are based on the treatment capabilities of the in-situ soils. Regardless of the calculated rate, the system operator shall monitor each waste application to verify adequate infiltration of the waste into the soil and a spray irrigation cycle must be stopped if runoff outside of the designated spray application field site is observed.

e. Ground Water Monitoring Wells

Six ground water monitoring wells had been monitored on the site, in the past, and are shown on Attachment "3" of this Fact Sheet. Of the six wells only three are required to be monitored as part of this license. The six wells are identified below, however, only three* (MW3, MW4, and MW5) are required to be monitored:

Outfall Designation	Location
#MW1	Westerly of facultative lagoon, #FL1
MW2	Northerly of the storage lagoon, #SL
MW3*	Easterly of the storage lagoon #SL
MW4*	Southeasterly of Spray Area #4, #SA4
MW5*	Southerly of Spray Areas #2 & #3, #SA2 & SA3
MW6	Westerly of Spray Area #1, #SA1

f. Groundwater Monitoring - Monitoring parameters include depth to the water level below the land surface, nitrate-nitrogen, specific conductance, temperature, pH, TSS. Ground water sampling shall now be conducted in May and October of each calendar year. Further sampling is required once per five years for certain metals. The metal sampling is to occur during the last 12 months of the term of the license.

7. SYSTEM CALIBRATION

Discharge rates, application rates and uniformity of application change over time as equipment gets older and components wear, or if the system is operated differently from the assumed design. Operating below design pressure greatly reduces the coverage diameter and application uniformity (resulting in increased ponding). For these reasons, the licensee shall field calibrate their equipment on a regular basis to ensure proper application and uniformity, and when operating conditions are changed from the assumed design. See Attachment "2" of this Fact Sheet.

Calibration involves collecting and measuring flow at several locations in the application area (typically a grid pattern of containers with uniform diameters). Rain gauges work best because they already have a graduated scale from which to read the application amount without having to perform additional calculations.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As licensed, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class GW-A classification.

9. PUBLIC COMMENTS

Public notice of this application was made in a local newspaper on or about December 6, 2005. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft licenses shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

10. DEPARTMENT CONTACTS:

Additional information concerning this licensing action may be obtained from and written comments should be sent to:

David Silver
Division of Water Quality Management
Bureau of Land and Water Quality
Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
Telephone (207) 287-3901

11. RESPONSE TO COMMENTS

During the period of February 23, 2006 through final agency action on this license, the Department solicited comments on the Sinclair Sanitary District application for the discharge. The Department did not receive comments from the licensee, state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the license. Therefore, the Department has not prepared a Response to Comments section as part of this licensing action.

Water Quality Monitoring Plan Details Attachment "1"
Bureau of Land & Water Quality, Div. of Environmental Assessment

For projects required to monitor the quality and/or levels of surfacewater or groundwater, a water quality monitoring plan/protocol document must be provided as a separate manual, for ease-of-reference by the applicant, consultants, and the Department. This manual must be prepared, signed, and dated by a professional qualified in water chemistry interpretation (and when groundwater flow interpretations and monitoring well selection are conducted to prepare the plan, endorsed by a Certified Geologist), and must in-clude the following, at a minimum:

1. Identification/summary of all monitoring points (e.g. monitoring wells, lysimeters, springs, etc.) to be used for measurement of water levels or for water quality analysis. Monitoring points must have an assigned identification symbol (alpha/numeric), and, where appropriate, elevation referenced to an established, permanent benchmark. Include a map showing all monitoring points.

2. Outline of the monitoring frequency at each monitoring point, by the number of sampling/analysis events per year (e.g. quarterly, etc.) and by month (e.g. April, September, etc.).

3. Provision for obtaining adequate data on background water quality and/or levels, and for using a statistically-valid method for determining a significant increase in parameter concentrations (e.g. contamination levels, but not necessarily MCL's/MEG's). At a minimum, determination of background water quality or levels must consist of quarterly sampling/analysis for 1 year.

4. List of parameters to be analyzed, including references to the laboratory analysis methods to be utilized for each parameter, detection limits for each analysis method, and the MCL's/MEG's for all applicable parameters. All monitoring must include field parameters (conductivity, temperature, pH, and TDS), in addition to parameters specific to the monitoring program objectives.

5. Identification of the qualified personnel to take water level measurements and water quality analysis samples. These tasks should not be done by the applicant or employee of the applicant, but if proposed, then item 6 below must be addressed.

6. Written certification from a qualified expert that personnel to conduct monitoring are or will be adequately trained to properly collect measurements and/or samples by approved methods and protocols.

7. Description of the equipment and methods to be employed for water level measurement and/or water quality analysis sample-taking.

8. Description of the quality assurance/quality control and chain-of-custody protocols to be followed for water quality sampling, preservation, storage, transport, and laboratory analysis.

9. Provision for a professional qualified in water chemistry or groundwater flow interpretation to summarize, evaluate, and provide recommendations on the monitoring results that is submitted annually to the Department, unless a problem is evident, in which case the Department is to be notified immediately. Annual reports must include historical, as well as the most recent year's monitoring data for each monitoring point, which is presented in a tabular format. Reports must be signed/dated by the professional responsible for their preparation.

10. A provision that, if water levels or water quality monitoring results indicate adverse effects are occurring as a result of the project activity, then an evaluation will be made by a qualified professional and an appropriate remedial action/mitigation plan will be developed and submitted to the Department for re-view and approval.

Example Spray Irrigation Field Calibration Report Form
Attachment "2"

Background Data

Describe the reasons for system re-calibration (example annual calibration or change in operating conditions). When there has been a change in operating conditions list the specific changes such as new components (pumps, spray heads, size or type of pipes, etc.) or previously approved design changes.

Describe the current method for estimating the flow of wastewater to the irrigation area, ie, meter or pump calibration data. When using pump calibration data list the estimated flow rate of the pump for the existing site conditions (example gallons per minute). Also note the assumed diameter of coverage for the individual spray heads and the resulting area of application (acreage). Based on this information what is the assumed application rate in inches per hour and gallons per acre. Note: 1 acre-inch equals 27,150 gallons.

System Calibration

Describe or attach illustrations of the system calibration procedure, ie, grid layout or rain gauge or other uniform containers.

List the actual radius of spray coverage of the individual spray heads as measured during the field calibration and note any application uniformity problems such as noticeable ponding or uneven applications.

Calculate the acreage of the application based on the actual radius of coverage measured in the field. Show calculations.

Example: (27,150 gallons/acre/week)(1.5 inch/week)(1.3 acres) = 52,942 gallons/week

Calculate the estimated hourly application rate in inches per hour and gallons per acre obtained during the above calibration. Show calculations.

New Calibration Data

What changes to the estimates of wastewater flow are proposed, if any and why? And are the licensed application rates satisfied?

Any adjustments to improve uniformity of spray applications?

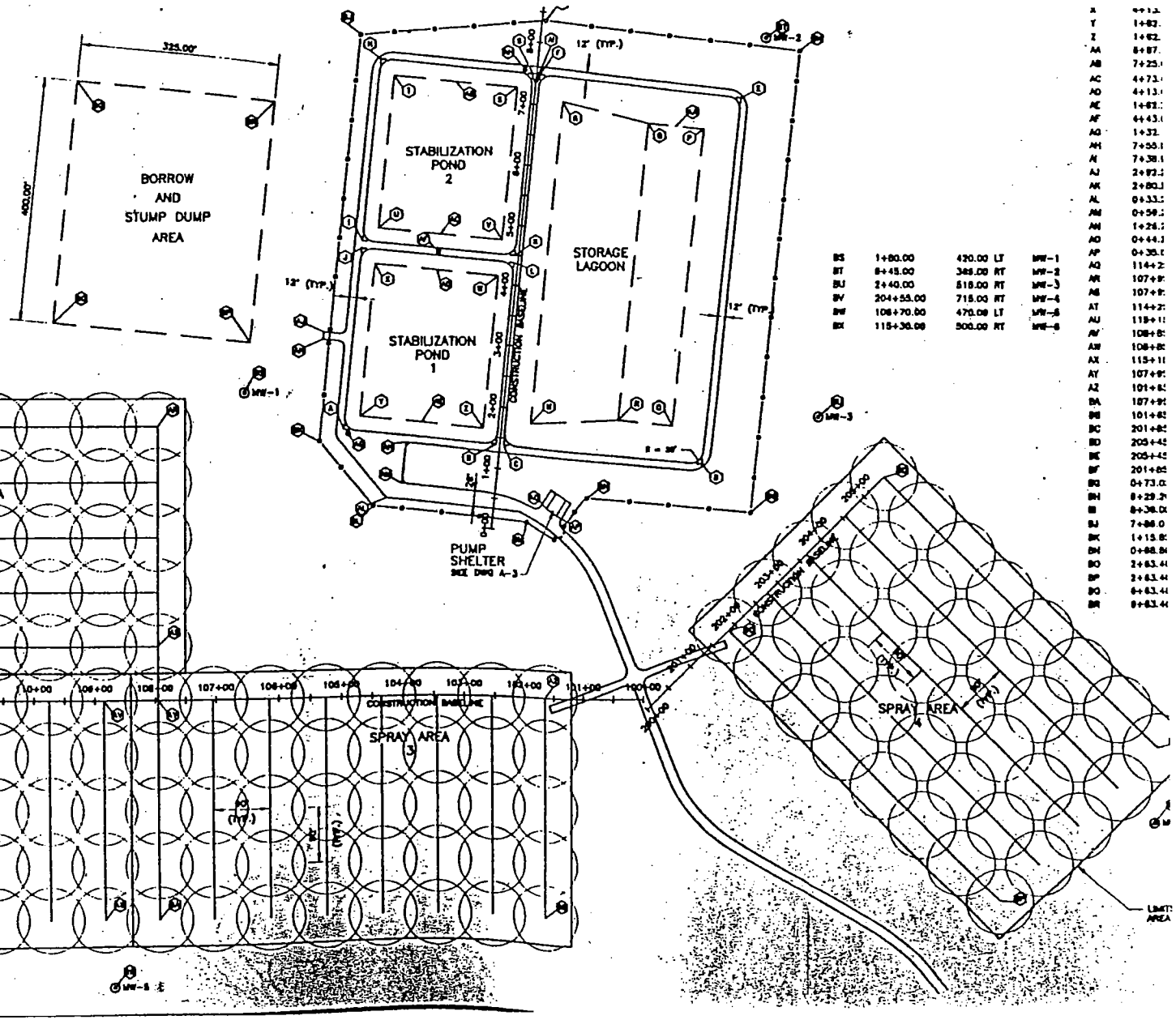
Submitted by: Signature of Operator in Responsible Charge	On Date:
Reviewed by: Signature of Operator in Responsible Charge	On Date:

ATTATCHMENT A

7. BLANKET DRAIN MATERIAL SHALL BE PLACED AS SHOWN ON THE CONTRACT DOCUMENTS. REFER TO DRAWING C-14 FOR TYPICAL LAGOON EMBANKMENT DETAIL. IN GENERAL BLANKET DRAIN MATERIAL SHALL BE PLACED AS FOLLOWS:
   A. AREAS BENEATH THE OUTSIDE FACE OF THE LAGOON EMBANKMENT TO A DEPTH OF 6-INCHES, AS INDICATED BY THE APPROXIMATE LIMITS SHOWN ON DRAWINGS C-5 AND C-6.
   B. OTHER LOCATIONS INDICATED ON THE CONTRACT DOCUMENTS.

8. COORDINATE FINAL PLACEMENT OF PROCESS STRUCTURES WITH ENGINEER.

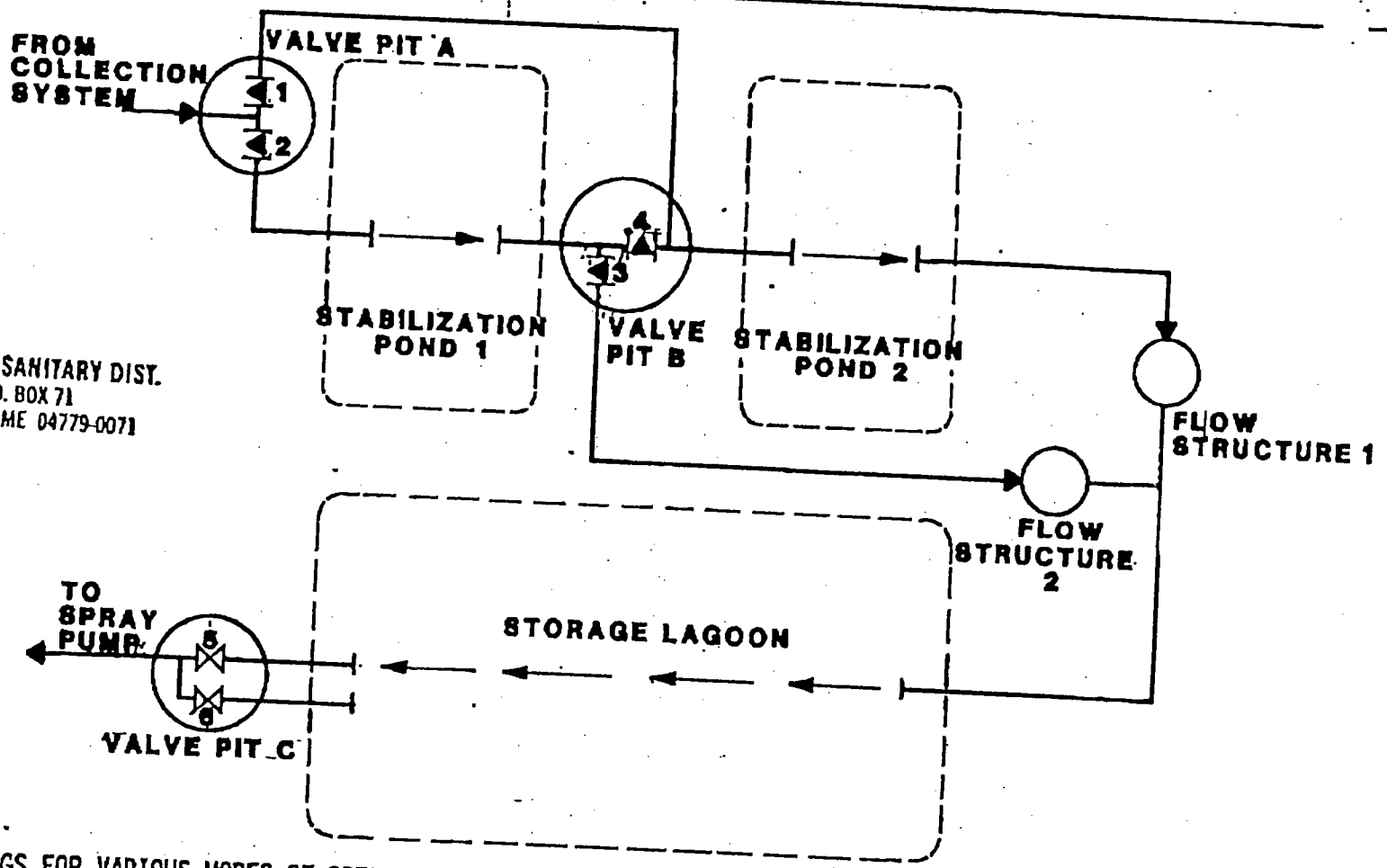
9. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH AND ACCEPTABLE TO THE ENGINEER AND OWNER. THE LIMITS OF WORK SHALL INCLUDE THE FOLLOWING AREAS:
   A. ACCESS DRIVE - AREAS WITHIN 25' OF THE ROADWAY CENTERLINE AS INDICATED ON THE PLAN AND PROFILE DRAWINGS.
   B. LAGOONS - AREAS WITHIN 15' OF THE OUTSIDE OF THE PROPOSED FENCE LINE.
   C. SPRAY AREAS - THE AREA WITHIN 15 FEET TO EITHER SIDE OF THE SPRAY DISTRIBUTION PIPING AND RISERS AS SHOWN ON THIS DRAWING.
   D. BORROW AND STUMP DUMP AREA - THE AREA AS DESIGNATED ON THIS DRAWING AND ACCESS THERETO AS APPROVED BY THE ENGINEER.



BS	1+80.00	420.00 LT	MW-1
BT	8+45.00	348.00 RT	MW-2
BU	2+40.00	518.00 RT	MW-3
BV	204+55.00	715.00 RT	MW-4
BW	108+70.00	470.00 LT	MW-5
BX	115+30.00	500.00 RT	MW-6

MW

ATTATCHMENT B



SINCLAIR SANITARY DIST.
P.O. BOX 71
SINCLAIR, ME 04779-0071

VALVE SETTINGS FOR VARIOUS MODES OF OPERATION:

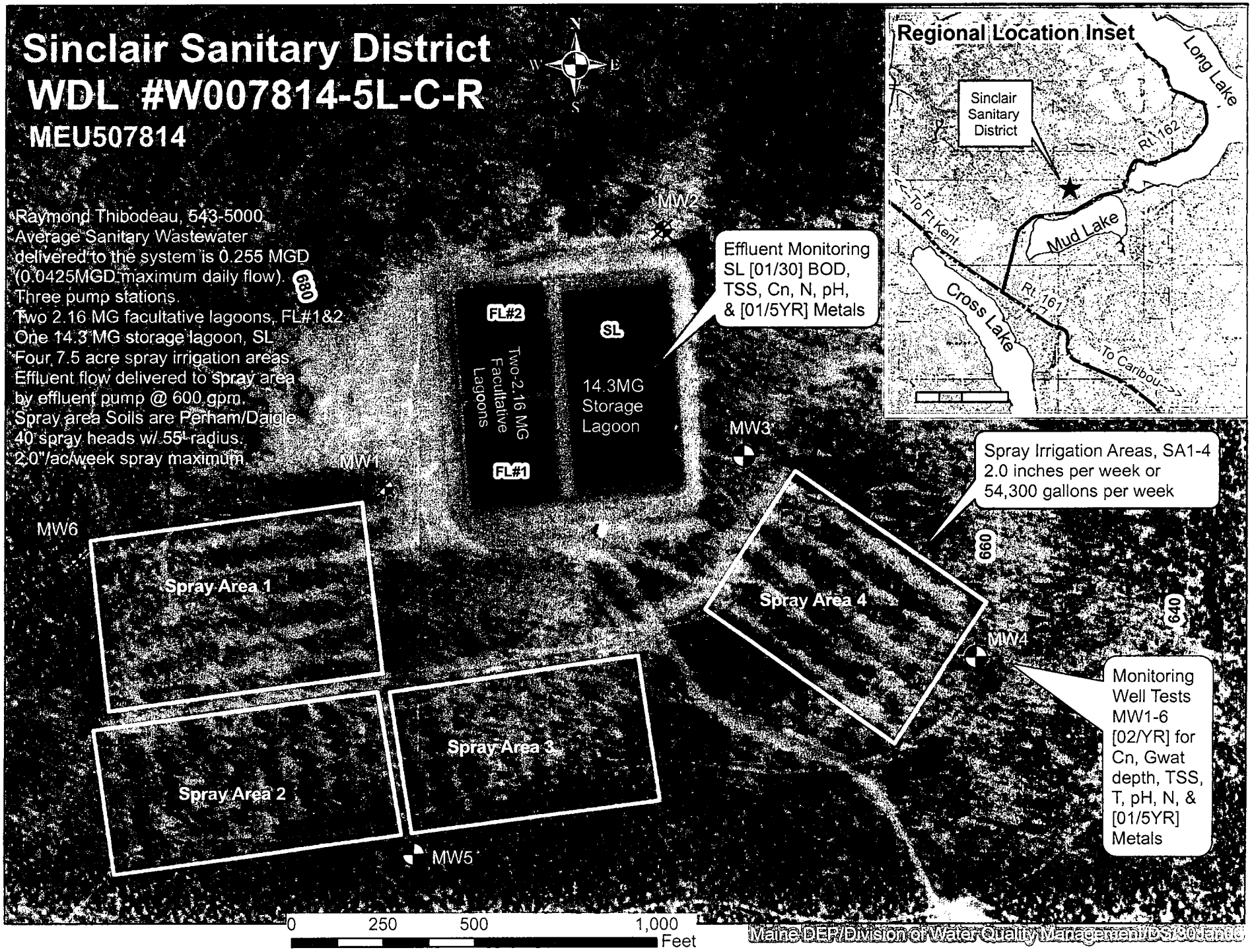
VALVE NO.	NORMAL (SERIES) OPERATION	BYPASS 1	BYPASS 2	PARALLEL
1	CLOSED	OPEN	CLOSED	OPEN
2	OPEN	CLOSED	OPEN	OPEN
3	CLOSED	CLOSED	OPEN	OPEN
4	OPEN	CLOSED	CLOSED	CLOSED
5	OPEN	OPEN	OPEN	OPEN
6*	CLOSED	CLOSED	CLOSED	CLOSED

* VALVE 6 TO BE OPEN ONLY AS REQUIRED UNDER SPECIAL OPERATING CONDITIONS

SINCLAIR SANITARY DIST.
P.O. BOX 71
SINCLAIR, ME 04779-0071

PROCESS PIPING SCHEMATIC

DATE: SCALE: FIGURE: 20


Sinclair Sanitary District
WDL #W007814-5L-C-R
MEU507814
Raymond Thibodeau, 543-5000
Average Sanitary Wastewater delivered to the system is 0.255 MGD (0.0425MGD maximum daily flow).
Three pump stations.
Two 2.16 MG facultative lagoons, FL#1&2
One 14.3 MG storage lagoon, SL
Four 7.5 acre spray irrigation areas.
Effluent flow delivered to spray area by effluent pump @ 600 gpm.
Spray area Soils are Perham/Daigle
40' spray heads w/ 55' radius.
2.0"/ac/week spray maximum.
680
FL#2
Two-2.16 MG Facultative Lagoons
FL#1
SL
14.3MG Storage Lagoon
Effluent Monitoring SL [01/30] BOD, TSS, Cn, N, pH, & [01/5YR] Metals
MW1
MW2
MW3
MW4
MW5
MW6
Spray Area 1
Spray Area 2
Spray Area 3
Spray Area 4
Spray Irrigation Areas, SA1-4
2.0 inches per week or
54,300 gallons per week
660
640
Monitoring Well Tests MW1-6 [02/YR] for Cn, Gwat depth, TSS, T, pH, N, & [01/5YR] Metals
Regional Location Inset
Sinclair Sanitary District
Long Lake
Rt. 162
To Ft Kent
Mud Lake
Cross Lake
Rt. 161
To Caribou
0
250
500
1,000
Feet
Maine DEP/Division of Water Quality Management/DS/30Jan08